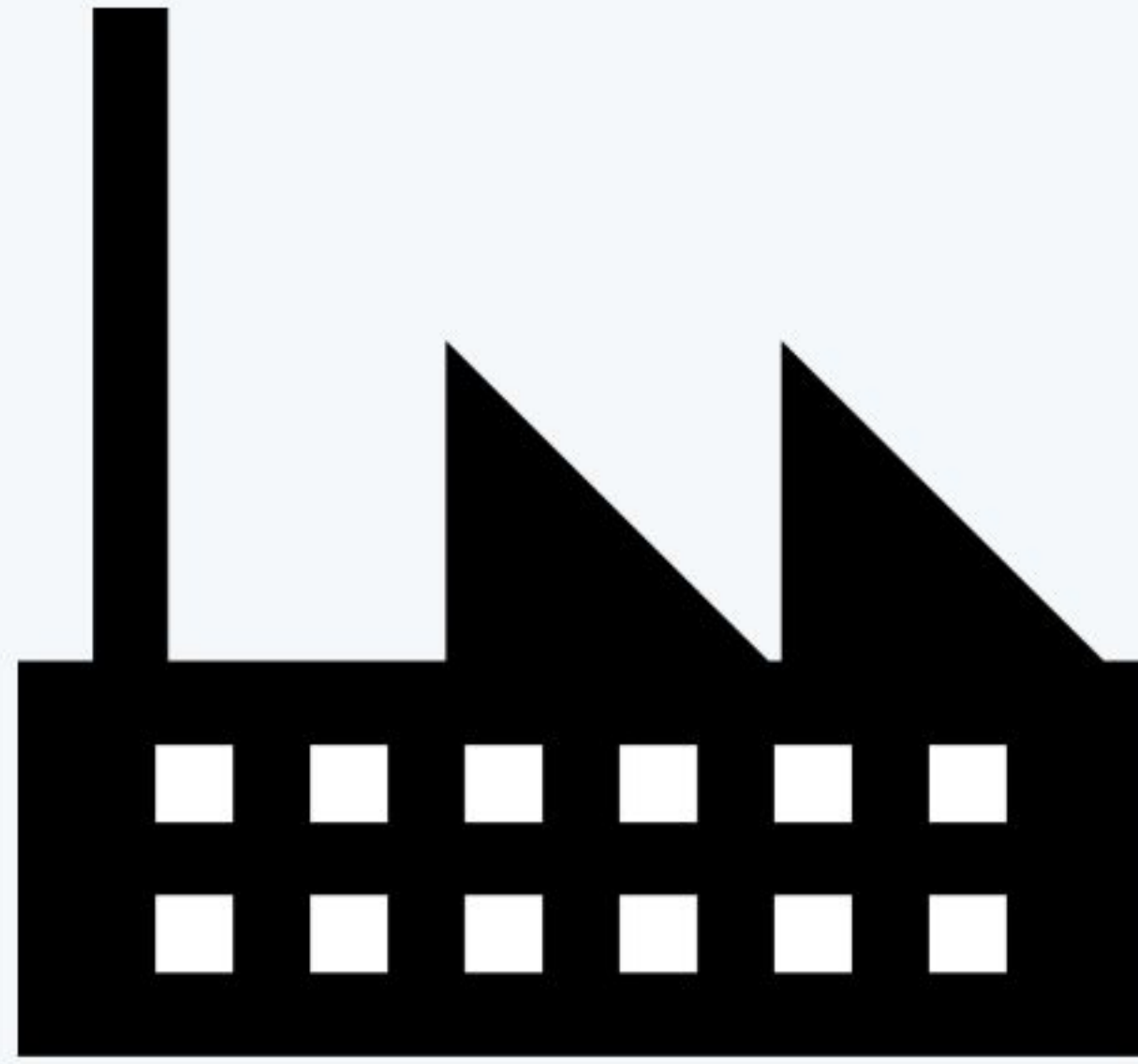




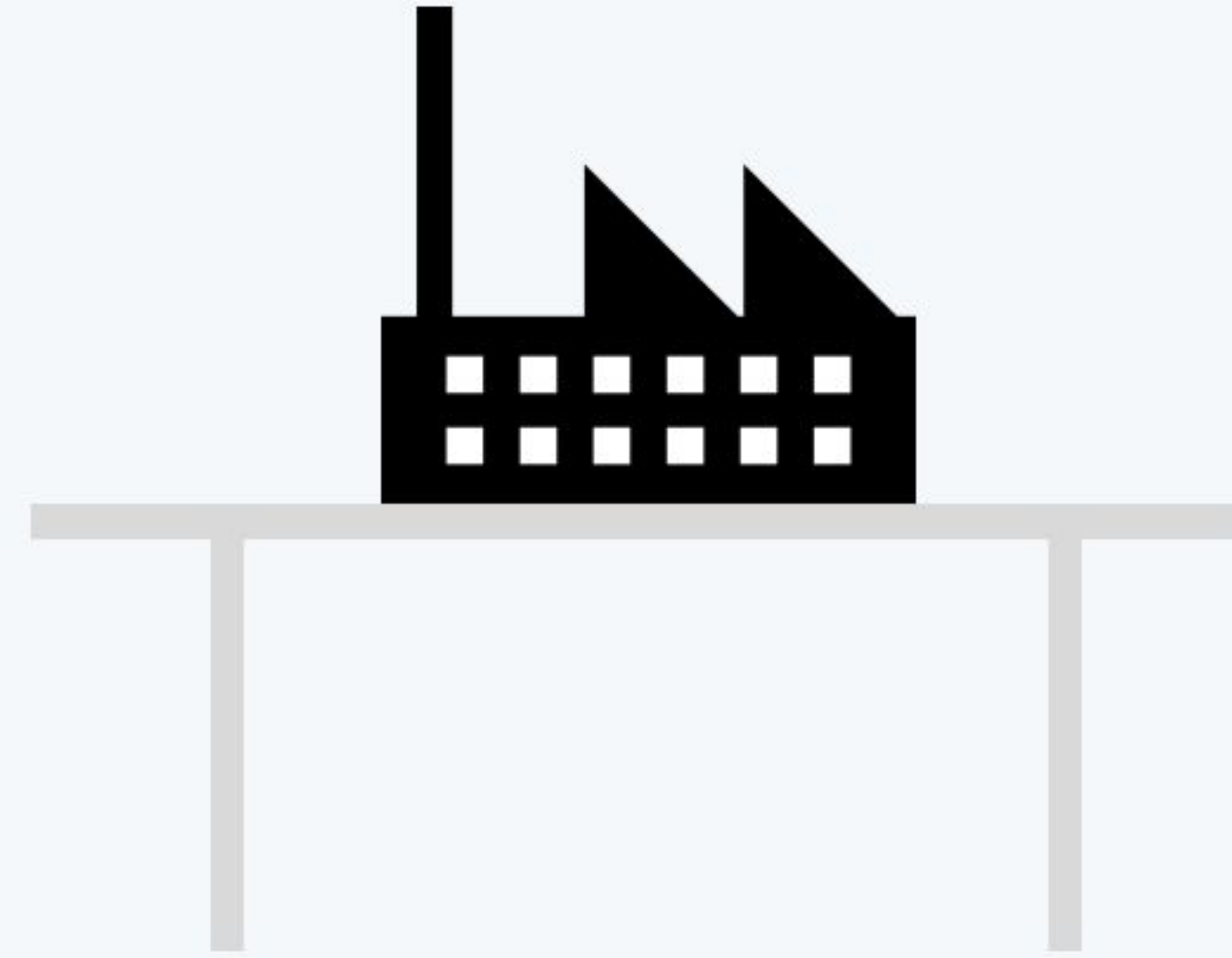
Product 2023

NAVY KU Mission

**Accelerate the global
transition to local
manufacturing**



Mass production
workflows



Desktop



**A world where everyone has
access to the workflows
needed to manufacture locally**

This is a
pressure
former



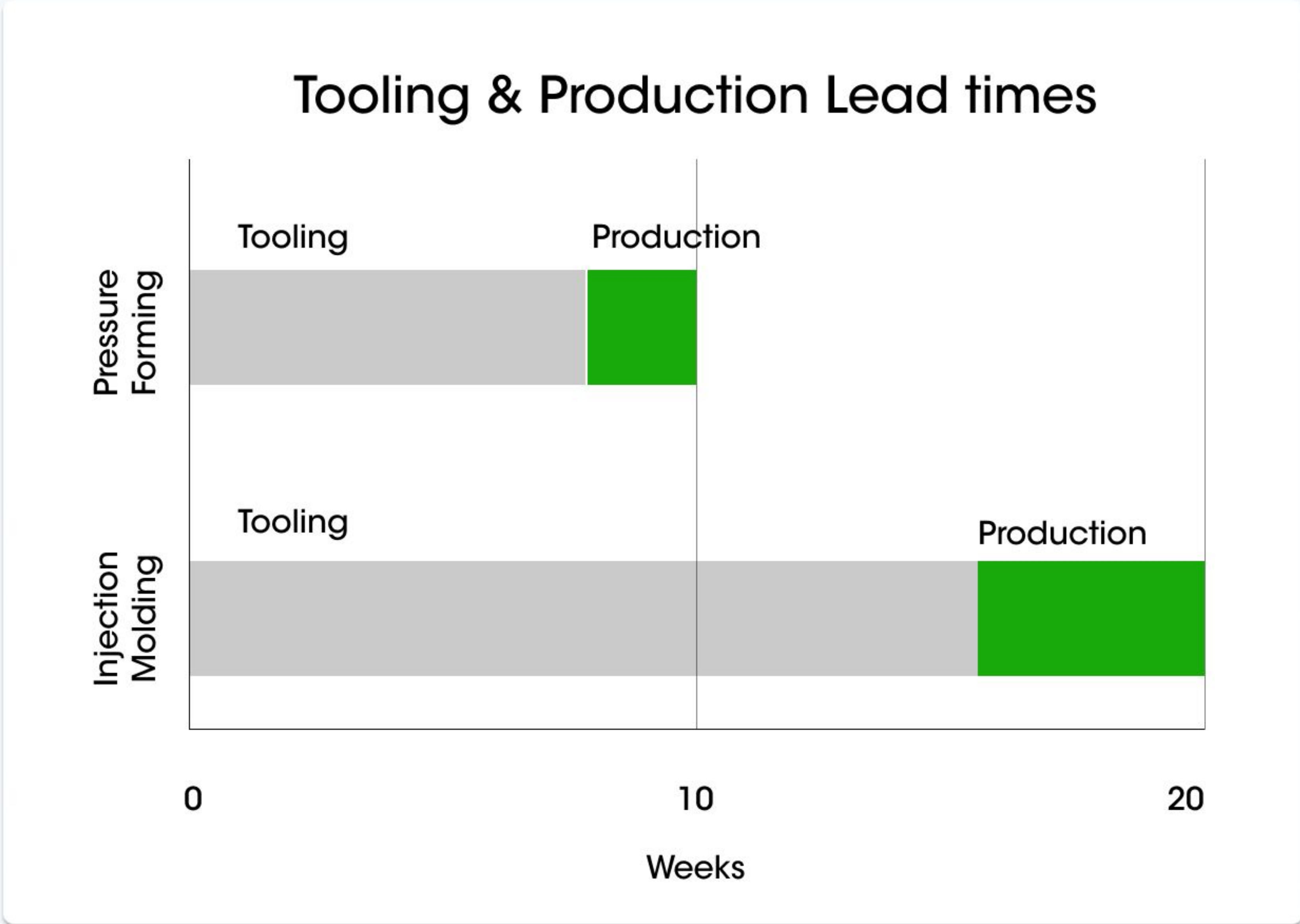
Industrial technology

- ✓ Low tooling cost
- ✓ High precision
- ✓ High performance parts
- ✓ Mid batch size (500 -1000)

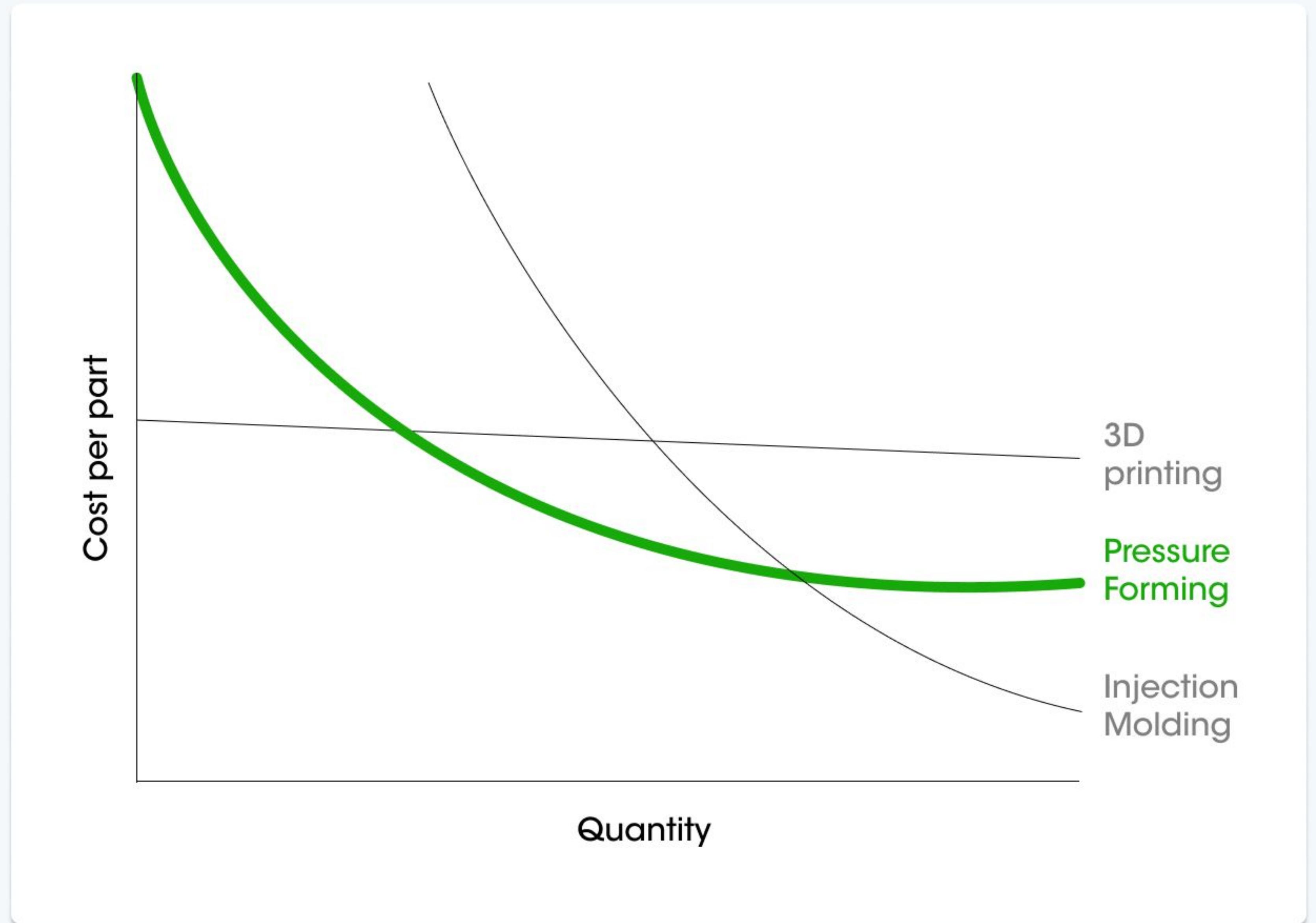
MAYKU



Optimal for batch production applications



Where cost per part is important



Industries that commonly use pressure forming



Medical



Automotive



Aerospace



Packaging



Consumer



Marine



Pharmaceutical



Dental

Inaccessible for engineers

- ⚠ Long Lead time
- ⚠ High MoQ (500+)
- ⚠ High cost per part

= Slow development cycles



MULTIPLIER



MAYKU

MULTIPLIER

Pressure forming, on the desktop

60 PSI

PRESSURE

220°C

TEMPERATURE

400x160_{mm}

FORMING AREA

<1µm

DETAIL

5 Tonnes

FORCE

0.5-5mm

THICKNESS

MAYKU



MULTIPLIER

Industrial grade molds & parts in minutes

- ✓ Affordable
- ✓ Easy-to-use
- ✓ No technician needed
- ✓ Desktop size
- ✓ 1-100 viable batch size
- ✓ Works with SLA/FDM/SLS prints for tooling

MAYKU



MULTIPLIER

This is not a vacuum former



MAYKU

MULTIPLIER

This is a pressure former

220°C

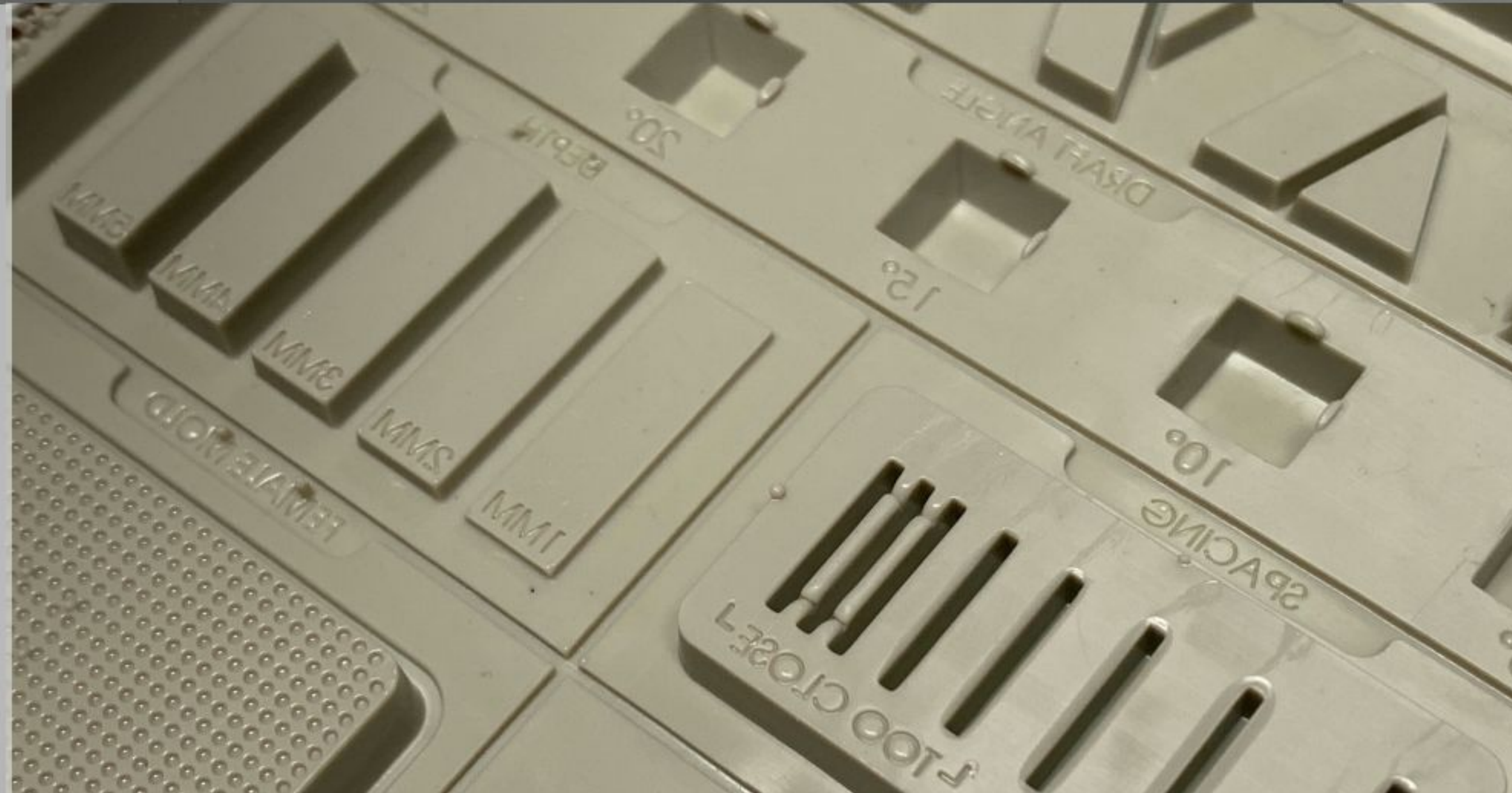
TEMPERATURE

5 Tonnes

FORCE

0.5-5mm

THICKNESS



60 PSI

PRESSURE

<1µm

DETAIL

400x160_{mm}

FORMING AREA

MULTIPLIER UHMW

Strong, flexible
impact-resistant
parts with good
chemical
resistance

MAYTU



MULTIPLIER UHMW

**Strong, flexible
impact-resistant
parts with good
chemical
resistance**

MAYTU



MULTIPLIER PETG

Transparent,
recyclable, food
safe parts and
molds

MAVU



MULTIPLIER HIPS

**Low-cost,
lightweight, food
safe versatile,
recyclable
material**

MAVU



MULTIPLIER EVA

Flexible parts
and two-part
molds

MAYKU



MULTIPLIER EVA

Flexible parts
and two-part
molds

MAYKU



MULTIPLIER **ABS**

Tough, impact resistant parts with high heat resistance

MAYKU



MULTIPLIER PMMA

Optically
clear, glass-
like parts

MAYKU



Extending established workflows

FFF

U Mayku Multiplier x +

ultimaker.com/nl/partner-hardware/mayku-multiplier

UltiMaker 3D printers Software Materials ecosystem Applications Knowledge Support Request a quote

Ultimaker > Partners ha... > Mayku Multiplier

Transform 3D printed templates into professional-quality parts with the Mayku Multiplier

Use pressure-forming to reduce costs and streamline processes, as you create highly detailed custom molds - or experiment with flexible and transparent materials.

Buy now

[Visit Mayku's website](#)

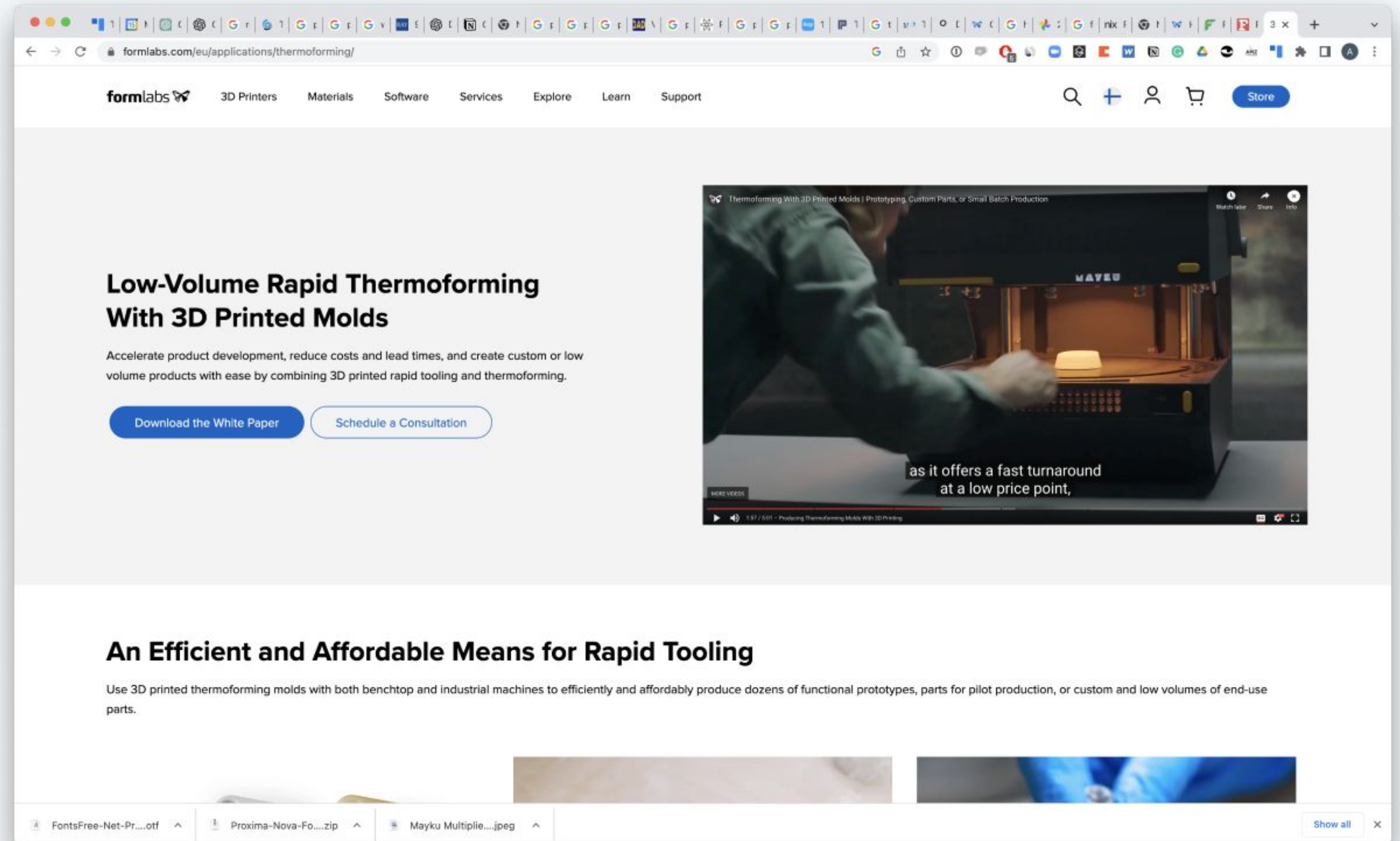
[Customer support](#)

[Explore more partner accessories](#)

Feedback

Extending established workflows

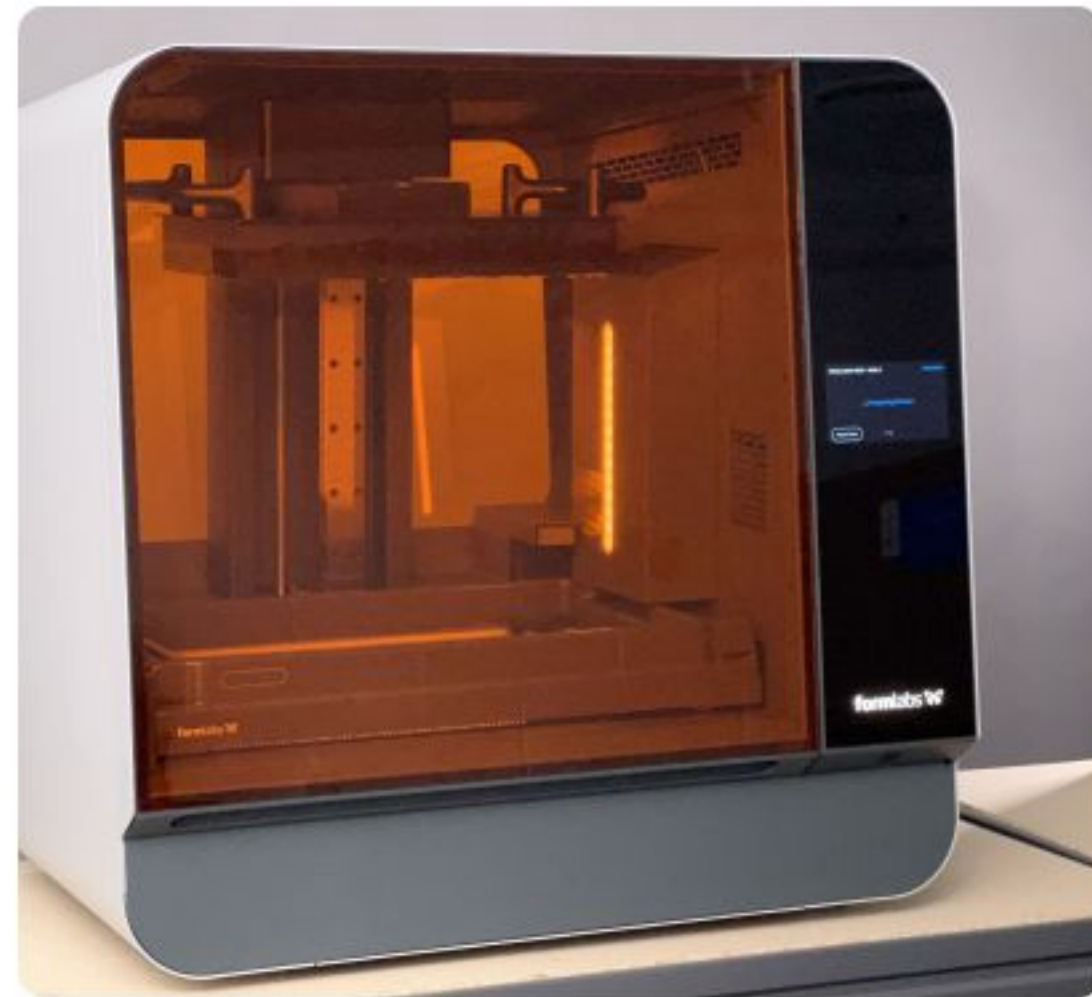
SLA



Low volume rapid thermofforming with 3D printed Molds



1 Design



2 Print



3 Multiply



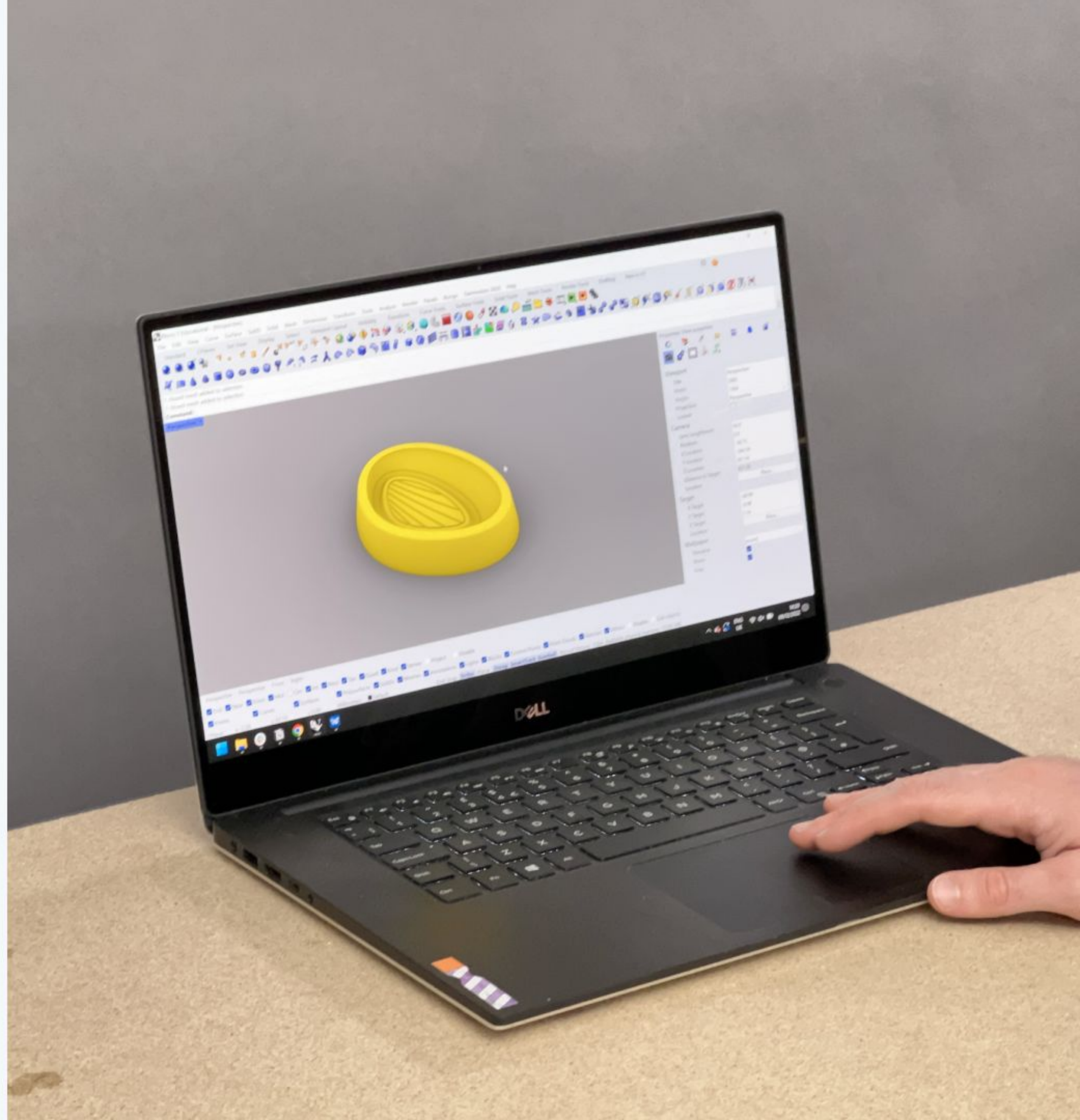
4 Post process

MULTIPLIER **PMMA**

1 Design Part Design

1. 8° Draft angles
2. Not taller than wide
3. No undercuts

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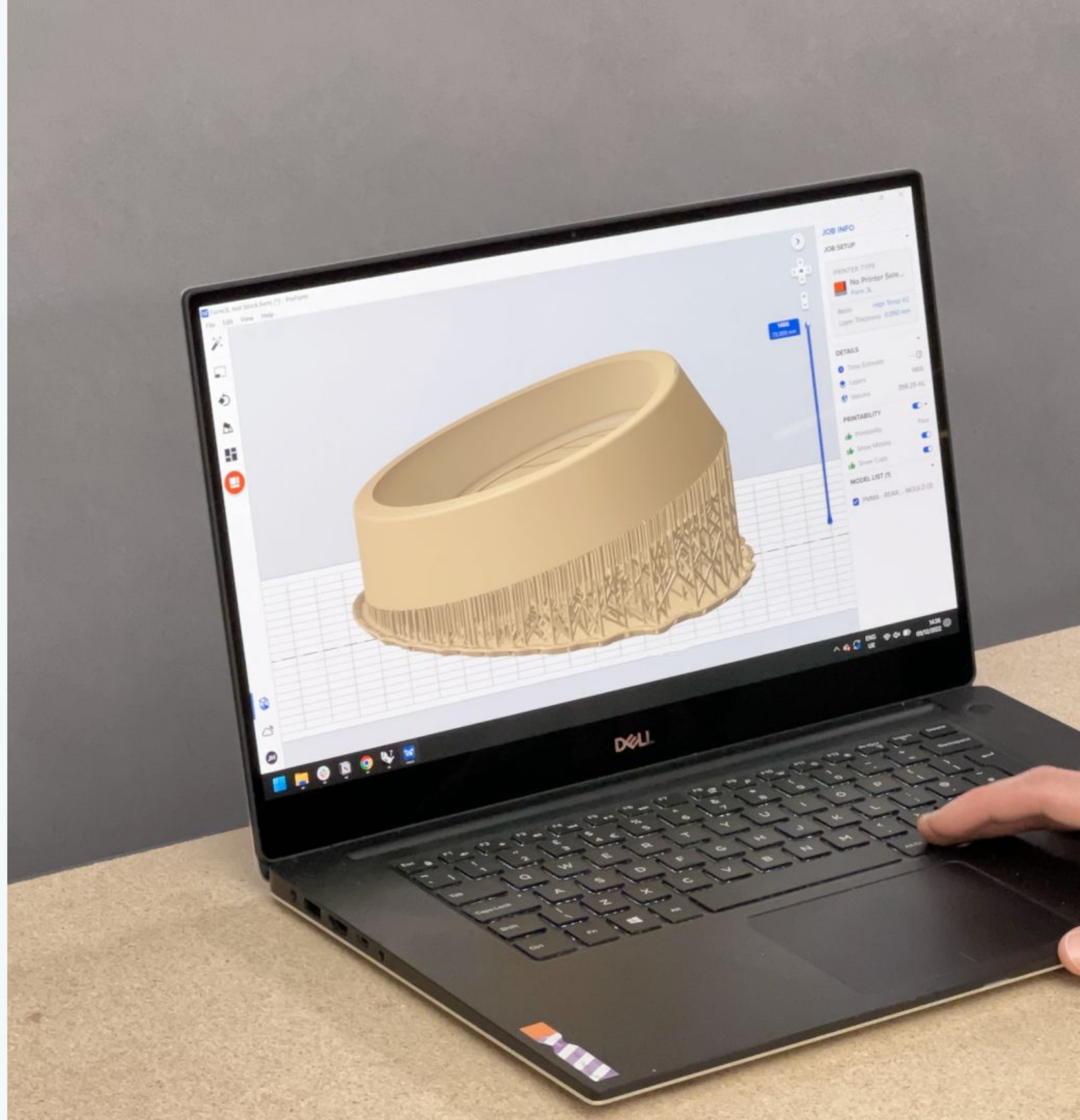


MULTIPLIER **PMMA**

1 Design Template Design

1. 8mm wall thickness
2. Dense supports - 2-3mm
3. Add cutting guides

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MULTIPLIER **PMMA**

2 Print

Template Production

1. SLA, FFF and SLS
2. For SLA - air holes 0.4mm - 0.6mm



MULTIPLIER **PMMA**

2 Print Template Materials

1. SLA - Formlabs High temp resin excellent for templates
2. FFF - Polycarbonate
3. SLS - Nylon

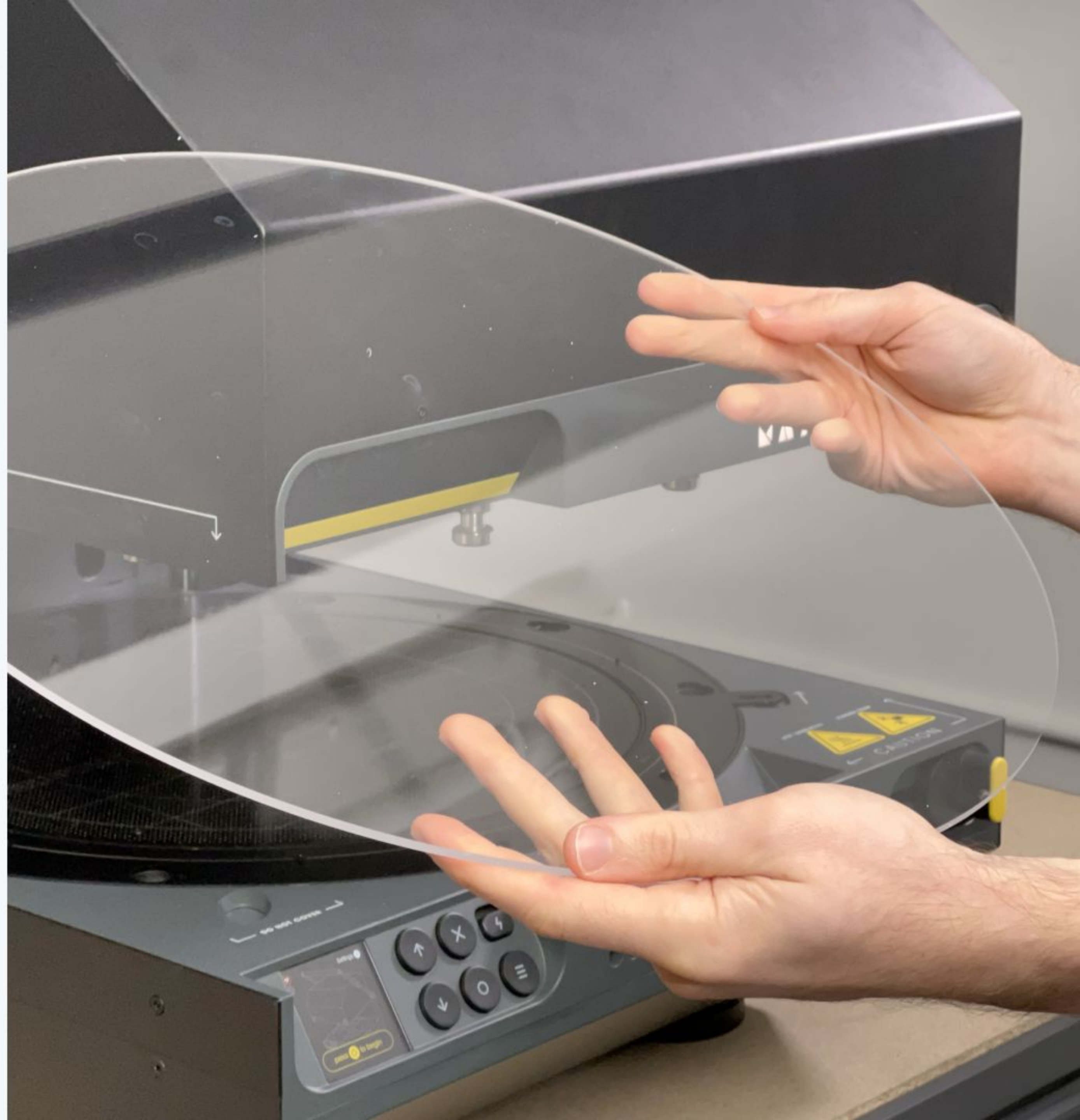


MULTIPLIER **PMMA**

3 Form Forming

1. 3mm transparent PMMA
2. 9 minute cycle time
3. Temperature 200°

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MULTIPLIER **PMMA**

4 Post

Cutting options

1. High frequency blade
2. Dremel + jig
3. CNC machine



MULTIPLIER **PMMA**

4 Post

Cutting options

1. High frequency blade
2. Dremel + jig
3. CNC machine

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MULTIPLIER **PMMA**

5 Batch

Rapid part production

1. Low cost per part
2. Make batches of 1-100
3. High consistency
4. High repeatability

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MULTIPLIER

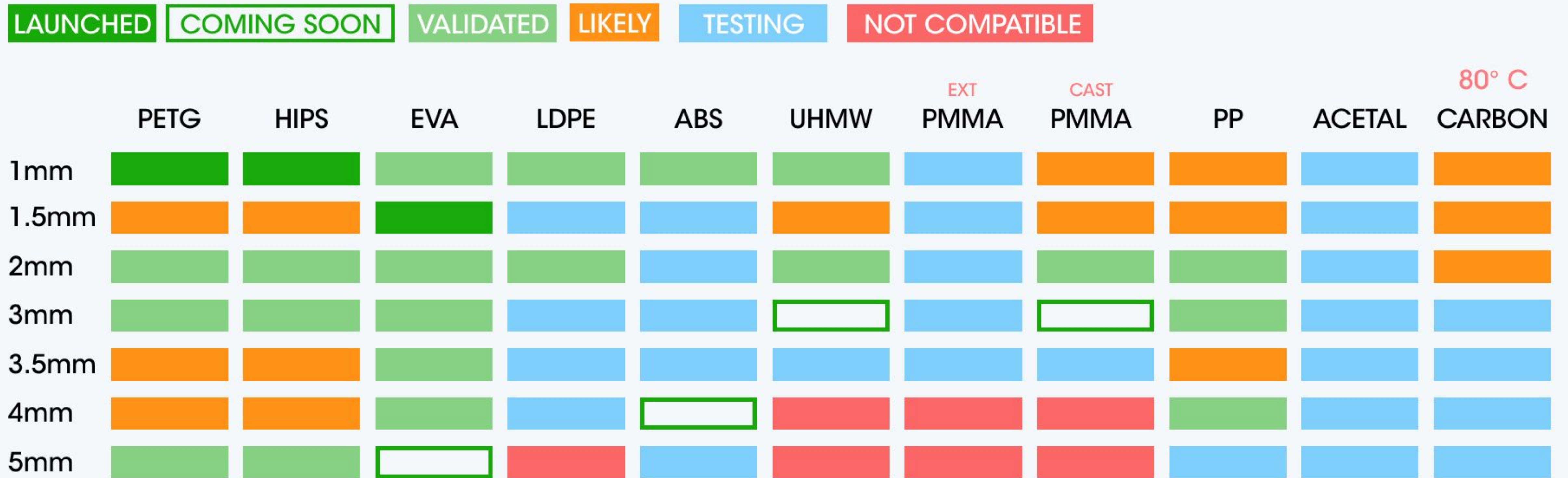
Six Launch materials

1. PETG 1mm
2. HIPS 1mm
3. EVA 1.5mm+
4. ABS 4mm
5. PMMA 3mm
6. UHMW 3mm



MULTIPLIER MATERIALS ROADMAP

An ever-expanding library



MULTIPLIER

Don't see your
material? Join our
development
programme for
unlocked firmware

MAYKU



Now we focus on batches of 1 - 100 molds and parts

Batch Size

1000+

Mass
Production

100 -
1000

Production
Ramp-up

Small-batch
Production

Production
Ramp-down

25 -
100

Field/user
testing

1-25

Working
Prototypes

1

Concept
models

Visual
Prototypes

Time

In the prototyping and testing phases of development

Batch Size

1000+

Mass
Production

100 -
1000

Production
Ramp-up

Small-batch
Production

Production
Ramp-down

25 -
100

Field/user
testing

1-25

Working
Prototypes

1

Concept
models

Visual
Prototypes

Time

Over time, we aim to enable workflows that make larger batches viable to support production applications



MULTIPLIER

Industrial parts in minutes, in house

- ✓ Industrial parts
- ✓ High detail
- ✓ Short lead-time
- ✓ Low cost-per-part
- ✓ High consistency
- ✓ Batch size 1 - 100

MAYKU



MULTIPLIER

Accelerating innovation

- ✓ Shorter development cycles
- ✓ Reduced risk to launch
- ✓ Keep in-house and protect IP
- ✓ Faster time-to-market

MAYKU



MULTIPLIER

500 users. From
automotive
engineers to
microfluidics labs



Microfluidics

“Every time I tried to replicate something smaller, the machine managed to do it without breaking a sweat. Now we replicated 1 μ m (or one thousandth of a millimetre) features”

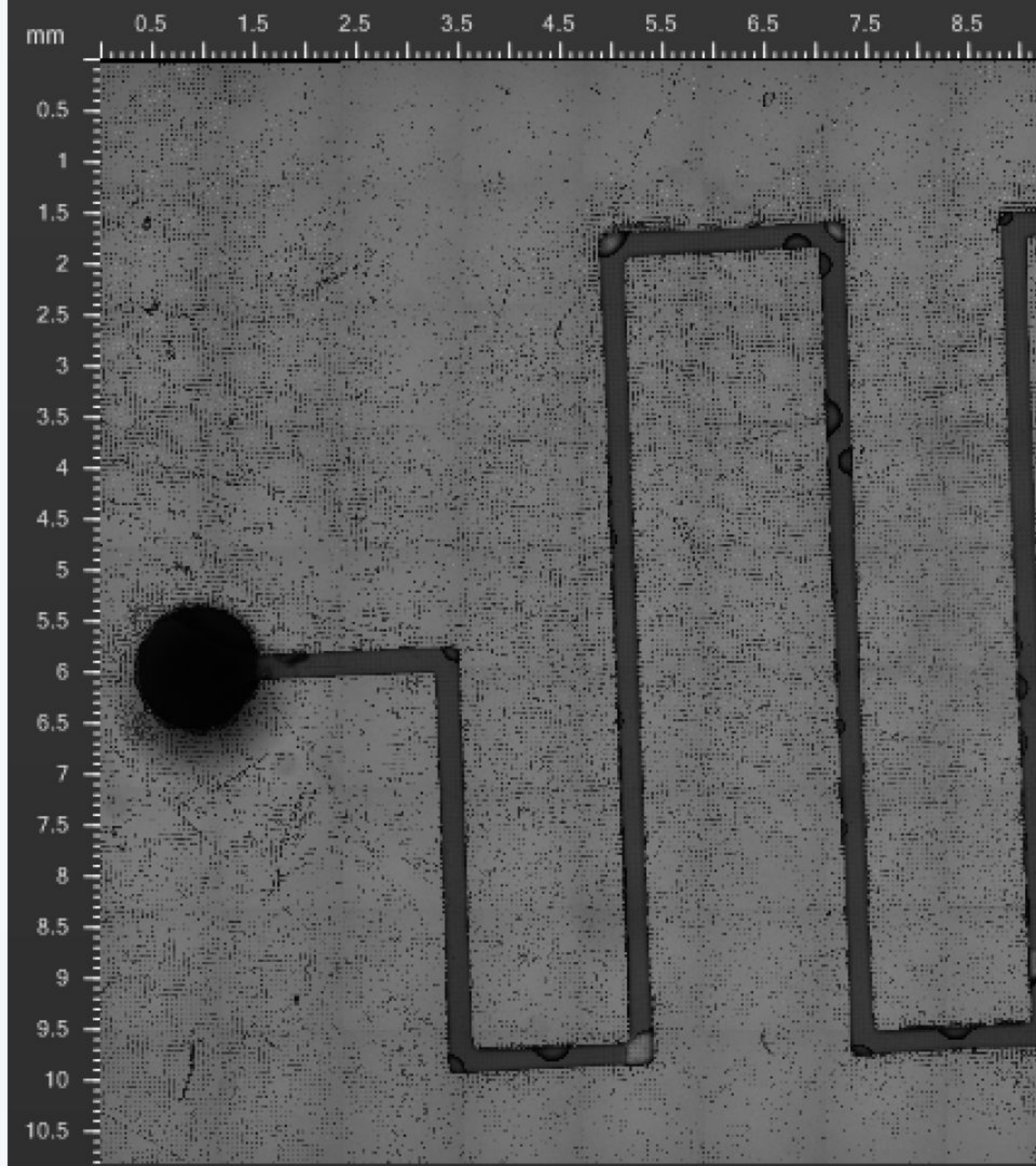
Vittorio Saggiomo
Professor Bio Nano Technology
WUR, Netherlands



Microfluidics

“Every time I tried to replicate something smaller, the machine managed to do it without breaking a sweat. Now we replicated 1um (or one thousandth of a millimetre) features”

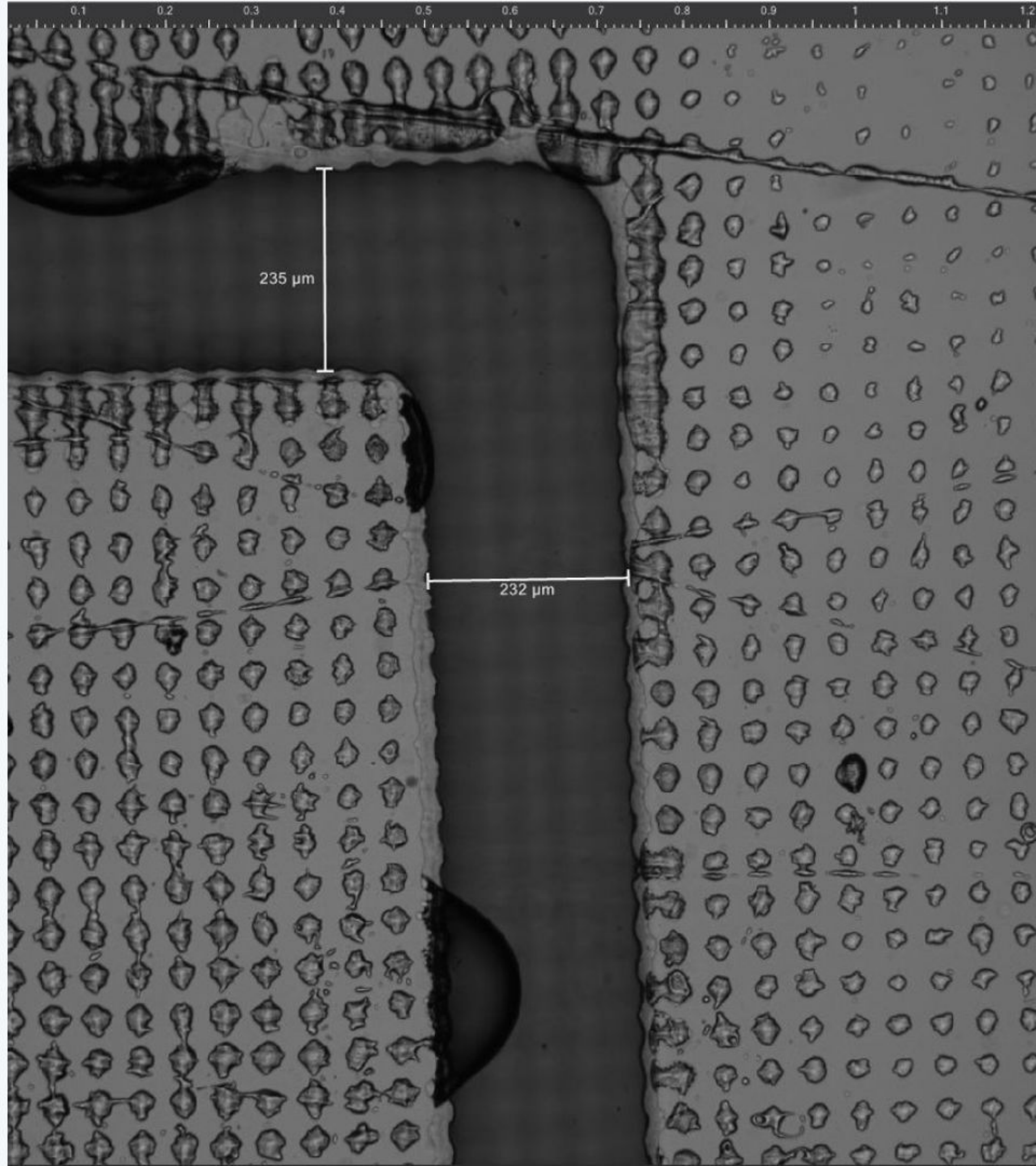
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Lighting spare parts

“The machine is fantastic and intuitive! It’s amazingly user friendly and made it possible to start making finished products in a couple of hours.”

Kenneth Berg
For a Hotel client by 3D Net Norway
Oslo



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